

The background of the slide is a dark, semi-transparent map of Canada. The map shows the outlines of the provinces and territories, with some labels like 'ALBERTA', 'CANADA', and 'ONTARIO' visible. At the bottom of the slide, there is a solid blue horizontal bar.

Visualizing catalogue data: mapping local music in a digital environment

IAML RIGA, JUNE 22, 2017

CAROLYN DOI, UNIVERSITY OF SASKATCHEWAN

Outline

1. Introduction
2. Background
3. Project goals
4. Methods
5. Results
6. Challenges & limitations
7. Conclusions

Project goals

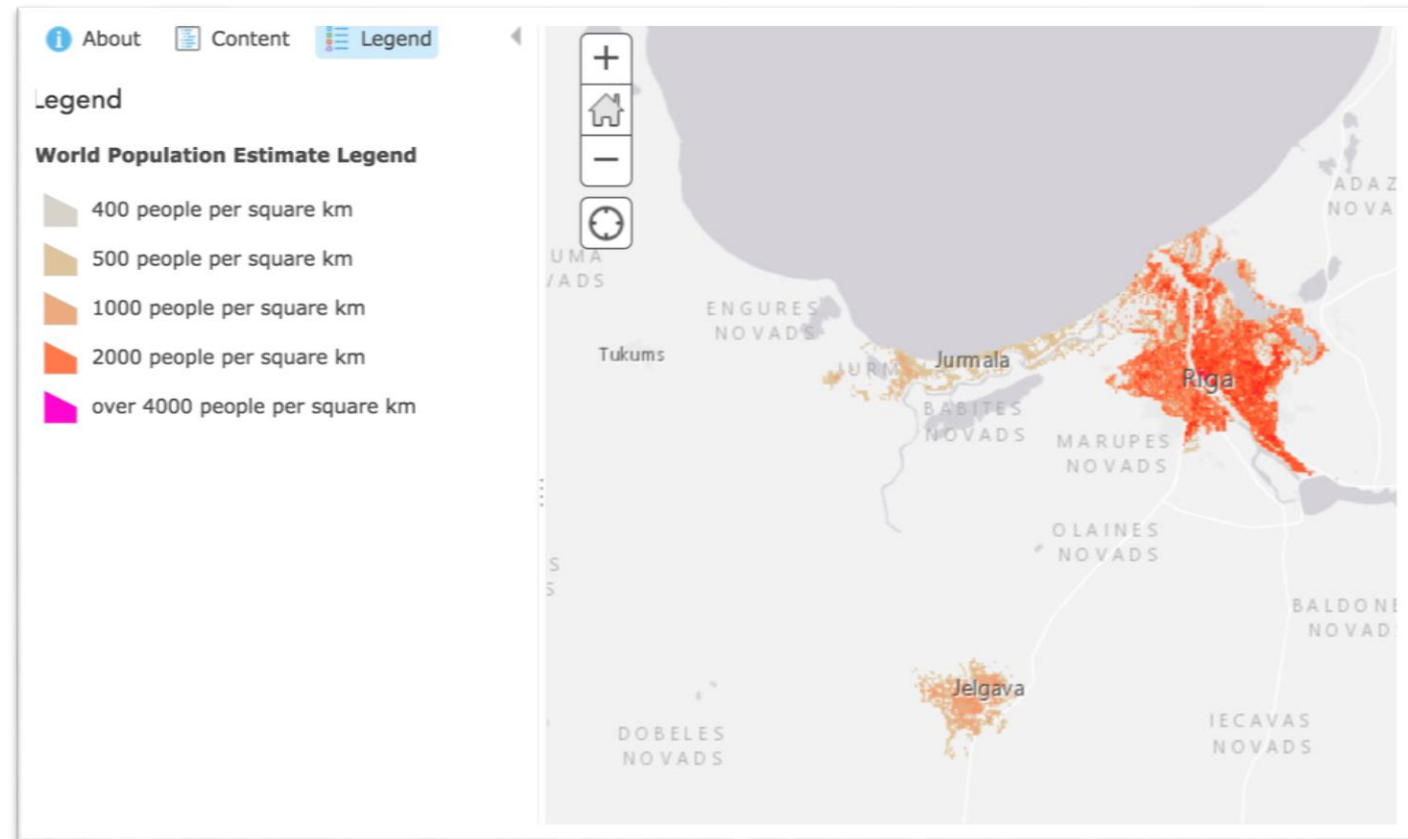
1. To understand the number, location, and concentration of community-based large ensembles in Saskatchewan and
2. To enable location-based searching and browsing of the Saskatchewan Music Collection

Features influencing musical development

1. Geography
2. Climate
3. People
4. Educational systems
5. Industry

Geo-visualization

- **geographic visualization**
- A set of tools and techniques supporting geospatial communication and information analysis
- uses interactive maps that are computer-based



Travelling
through Time
with Sounds.
Europeana.

1689

The Relief of Derry, song by Richard Hayward (in English)

Laudate Dominum: RV 606, Antonio Vivaldi (in Latin)

Europeana

Laudate Do...

Cookie policy

2:17

Vivaldi's powerful and concise setting of Psalm 116 (117 in Protestant bibles) for choir and strings is a magnificent piece of music for unison violins with vocal accompaniment (approximate date of composition: 1713–1719). This specific recording was created on the occasion of the project for creating a digital archive of 18th century Venetian music.
Recording from Central Insti-

1798

Dunlavin Green, song by Frank Harte (in English)

battle, Clontarf, vision, Valkyries, Viking, Norse, Brian Boru, victory, Ireland, Caithness, Daraddas

folk song

classical

Mozart

composition

recital theatre drama speech German

The Relief of Derry,

Laudate Dominum: RV

Leporello

Anton B

This

Island

Norge

Suomi

Sverige

Belaryсь

France

Roma

España

Italia

Ελλάδα

Türkiye

مصر

ليبيا

الجزائر

موريتانيا

Mali

Niger

Tchad

Sudan

السودان

Laudate Dominum: RV 606, Antonio Vivaldi (in Latin)

Smithsonian Folkways Holiday Music Map




Smithsonian Folkways Holiday Music Map

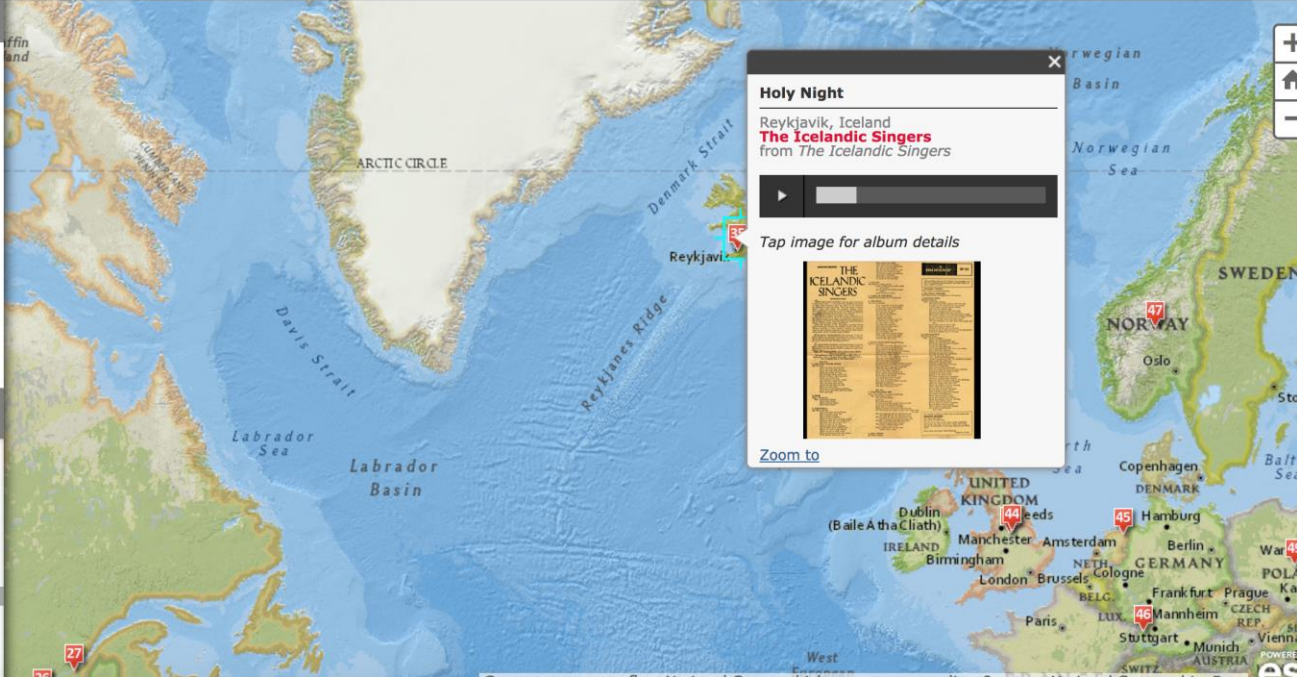
A "singing map" featuring traditional holiday music from the collection of [Smithsonian Folkways Recordings](#), the nonprofit record label of the national museum of the United States.

The Christmas, Chanukah, and Kwanzaa holiday traditions feature an incredibly diverse range of musical accompaniment. This sampling from the Smithsonian Folkways collection includes 56 songs from 24 nations. Click "audio tour" to hear them all, or pick and choose from the map or list below.

START AUDIO TOUR

Type to search...


-  Zamba Navideña - Christmas Zamba...
Buenos Aires, Argentina
-  Holy Night
Reykjavik, Iceland
-  Village Celebration
Sierra Leone



Holy Night

Reykjavik, Iceland
The Icelandic Singers
from *The Icelandic Singers*

Tap image for album details



[Zoom to](#)

Data collection

Inclusion criteria	Exclusion criteria
<ul style="list-style-type: none">• Sound recordings in any format.	<ul style="list-style-type: none">• Sound recordings containing reductions of choir, band, or orchestra music but not performed by a large grouping of musicians
<ul style="list-style-type: none">• Recordings by large ensembles that were in an identifiable place (city or town) in Saskatchewan.	<ul style="list-style-type: none">• Ensembles that were not associated with a place within the province.
	<ul style="list-style-type: none">• Items that had not been digitized and uploaded to the Islandora digital asset repository system.

Why large ensembles?

- Discrete subset of the larger collection
- Easily identified with a particular place
- Wide relevance to the province
- Many albums are uniquely held in the U of S Library



Method


- Create an interactive mapping tool documenting location and descriptive information about each album
- Plot data on the map according to the location of the ensemble
- Allow users to browse the map to find more information
- Create links between the map and existing information systems (catalogue, digital collection)

Data cleaning example: terminology

RDA 3.3.1.3	Alternative: Common Usage	AACR2
audio disc	CD or compact disc	sound disc
audiocassette	cassette or cassette tape	sound cassette
audio cartridge	MiniDisc	sound disc cartridge

Comparison of Terminology Allowed in RDA 3.4.1.3 Extent ("300 \$a," Yale University)

OpenRefine

 SMC_300_Description [Permalink](#)

Open... Export ▾ Help

Facet / Filter Undo / Redo 109

Extract... Apply...

Filter:

101. Text transform on 60 cells in column Cat_URL: `grel:"http://sundog.usask.ca/record="+ value`

102. Text transform on 60 cells in column bib num: `value.toNumber()`

103. Text transform on 3131 cells in column bib num: `value.toString()`

104. Text transform on 3071 cells in column bib num: `grel:value.slice(0, indexOf(value, "."))`

105. Split 3117 cell(s) in column 300 into several columns by separator

106. Remove column 300 1

107. Text transform on 3117 cells in column 300 8: `grel:slice(value, 1)`

108. Mass edit 2610 cells in column 300 8

109. Text transform on 106 cells in column

3131 rows


Show as: rows records Show: 5 10 25 50 rows « first < previous 1 - 10 next > last »



	<input type="checkbox"/> bib num	<input type="checkbox"/> Cat_URL	<input type="checkbox"/> 300	<input type="checkbox"/> 300 8	<input type="checkbox"/> 300 9	<input type="checkbox"/> 300 10	<input type="checkbox"/> 300 11	<input type="checkbox"/> 300 12	<input type="checkbox"/> 300 13	<input type="checkbox"/> 300 2	<input type="checkbox"/> 300 3	
	1674641		a1 sound disc (ca. 65:00) ; banalog, stereo., 33 1/3 rpm ; c12 in	1 sound disc	banalog, stereo., 33 1/3 rpm ;	c12 in				1 sound disc (ca. 65:00) :	banalog, stereo., 33 1/3 rpm ;	^
	2059194		a1 sound disc ; banalog, 33 1/3 r/min ; c12 in	1 sound disc	banalog, 33 1/3 r/min ;	c12 in				1 sound disc	banalog, 33 1/3 r/min ;	
	2059374		a1 sound disc ; b33 1/3 rpm, stereo. ; c12 in	1 sound disc	b33 1/3 rpm, stereo. ;	c12 in				1 sound disc	b33 1/3 rpm, stereo. ;	
	2059375		a1 sound disc (40 min.) ; b33 1/3 rpm, stereo. ; c12 in	1 sound disc	b33 1/3 rpm, stereo. ;	c12 in				1 sound disc (40 min.) :	b33 1/3 rpm, stereo. ;	
	2059379		a1 sound disc ; b33 1/3 rpm, stereo. ; c12 in	1 sound disc	b33 1/3 rpm, stereo. ;	c12 in +	e1 insert sheet			1 sound disc	b33 1/3 rpm, stereo. ;	

.csv file post-cleaning

[illegible]

Demo <http://smc.usask.ca/>

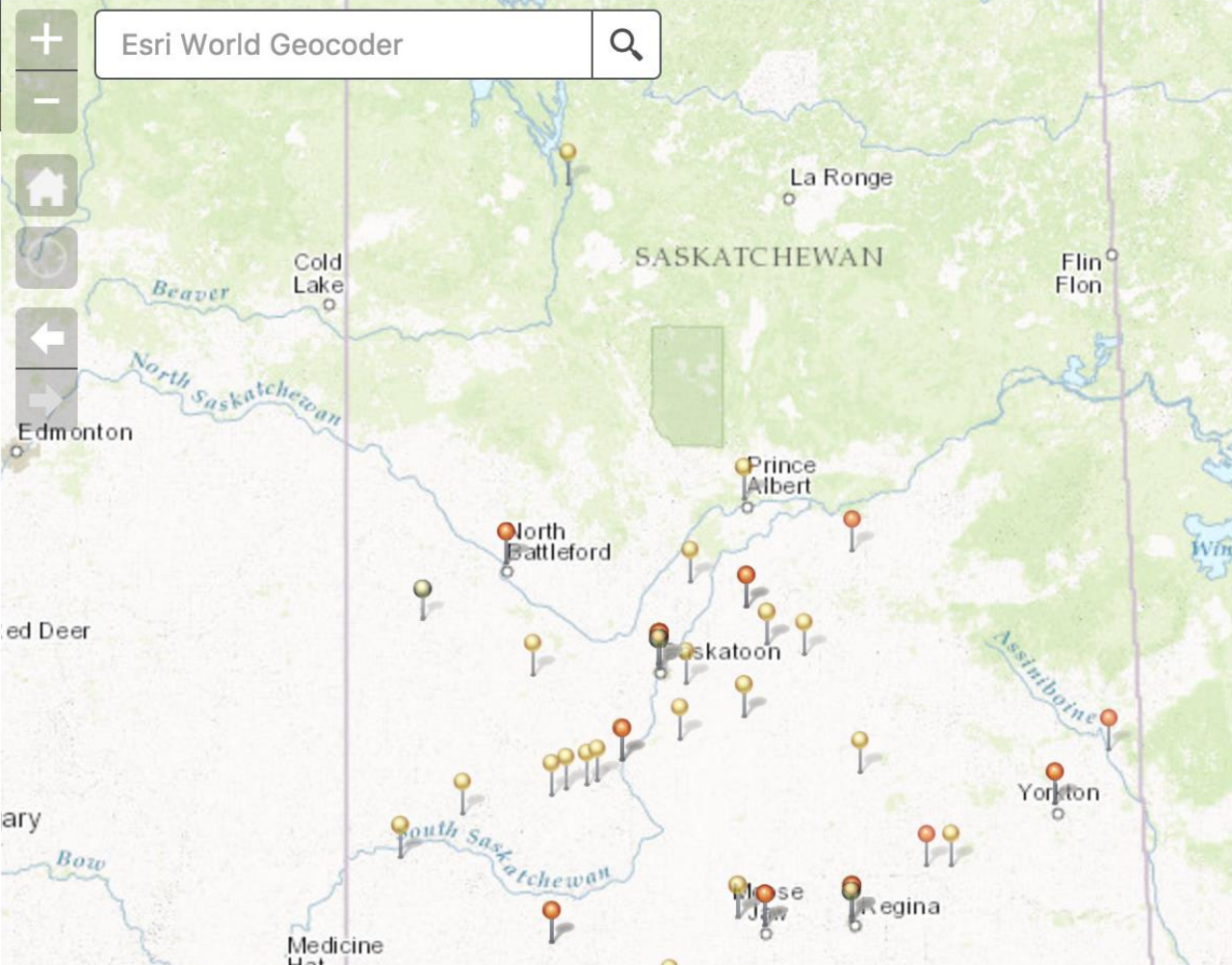
 **Choirs, Bands, and Orchestras of Saskatchewan v1** with Web AppBuilder for ArcGIS Saskatchewan Music Collection

Layer List

Operational Layers

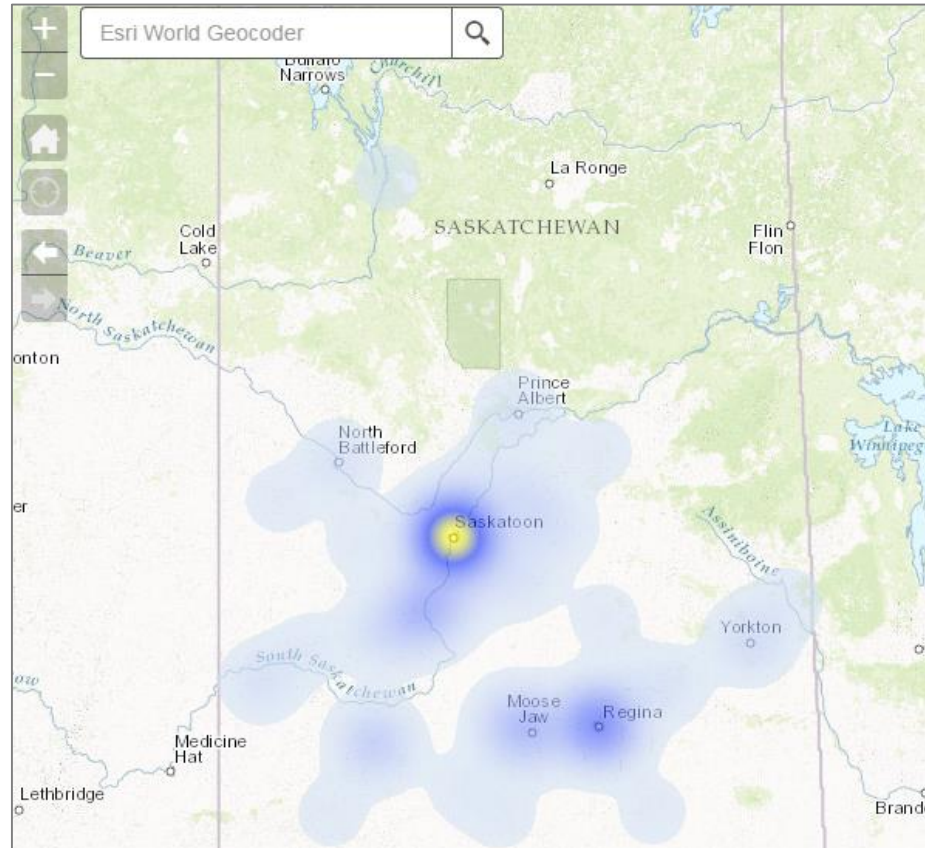
- ☒ Orchestras
- ☒ Bands
- ☒ Choirs
- ☐ All ensembles - location points
- ☐ All ensembles - location clusters



Esri World Geocoder

Map features include: +, -, Home, Refresh, Previous View, Next View, and a search bar. The map shows the province of Saskatchewan with major cities like Edmonton, Saskatoon, Regina, and Prince Albert, and rivers like the North Saskatchewan and Assiniboine. Numerous location pins are visible across the province.

Concentrations of activity

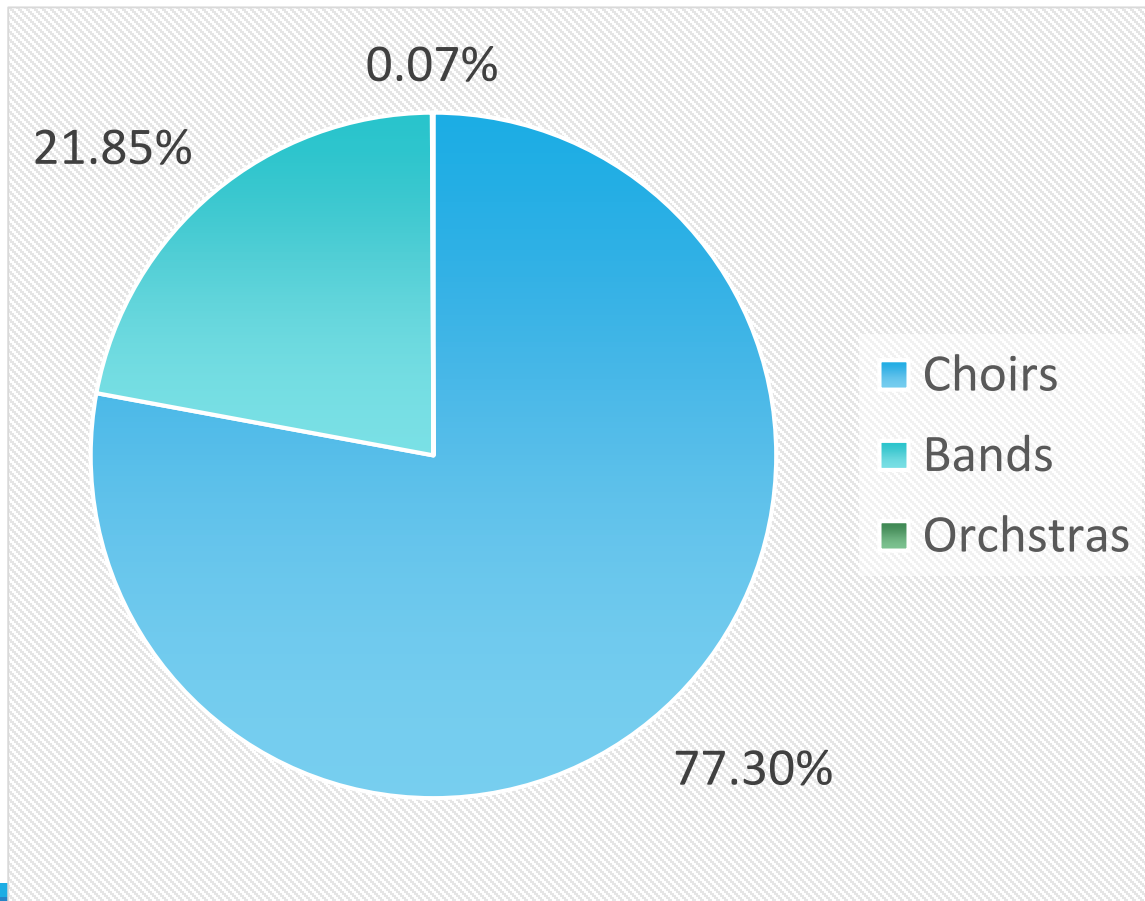


- Heat map feature and area measurement tool in ArcGIS
- Almost all recordings are in the southern half of the province

City size and album concentration

City name	City size (2011 census)	Number of albums per location
Saskatoon	222,189	41
Regina	193,100	18
Moose Jaw	33,274	5
Outlook	2,204	9
Swift Current	15,503	5

Representation of ensemble types



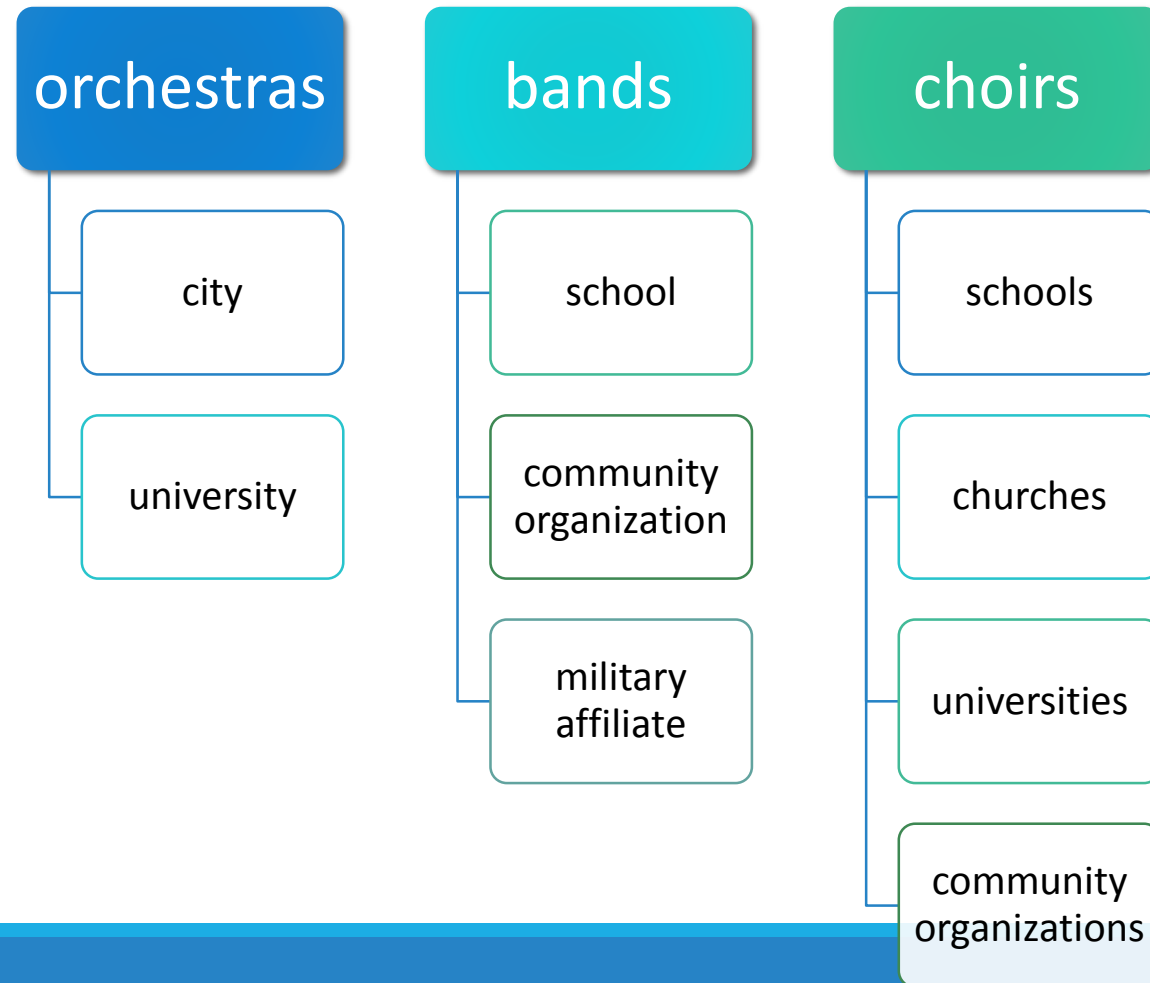
- one album may contain more than one ensemble type
- larger centres contain all three ensemble types
- rural locations are more likely to contain choirs only

Ensemble types and community organizations

Orchestras									
Choirs									
Bands									
Options Filter by Map Extent Zoom to Clear Selection Refresh									
__OBJECTID	Ensemble	Title	Number	Responsibility	Islandora URL	Front cover URL	Cat_URL	Format	
3	Orchestra	Bumper crop	nV	University of Saskatchewan Jazz Ensemble	http://smc.usask.ca		http://sundog.usask.ca	Compact Disc	
5	Orchestra	Saskatoon Junior Symphony: 1965 - 66		Saskatoon Junior Symphony	http://smc.usask.ca	http://smc.usask.ca	http://sundog.usask.ca	33 1/3 RPM	
6	Orchestra	Saskatoon Junior Symphony Orchestra		Saskatoon Junior Symphony	http://smc.usask.ca	http://smc.usask.ca	http://sundog.usask.ca	33 1/3 RPM	
7	Orchestra	Saskatoon Junior Symphony		Saskatoon Junior Symphony	http://smc.usask.ca	http://smc.usask.ca	http://sundog.usask.ca	33 1/3 RPM	

6 features 0 selected

Ensemble type and community organizations



Comparison of Search Interfaces

Criteria	Catalogue	Islandora	ArcGIS Map
Text searching	Author, title, subject, keyword, call number	Keyword	Location
Visual representation and searching	No	No	Yes
Portion of the collection	Complete collection, 3000+ albums	Digitized items, 1000 albums	Digitized albums by large ensembles, 119 albums
Digital object included	No	Yes – images and sound files	Yes – cover image
Link to other representations of the collection	No	No	Yes – links to both catalogue and Islandora

Conclusions

- library collection data has significant potential for exploring local histories
- Geo-visualizations offer alternative ways of engaging with locational data
- Sound recordings can be used as meaningful evidence of development of musical history and community development



University Library Special Collections & Archives, University of Saskatchewan. Canadiana Pamphlets Collection. 70. Postcard
Views of Early Saskatchewan, 7_70-248<http://scaa.sk.ca/gallery/postcards/permalink/35419>

Thank you!
carolyn.doi@usask.ca

Acknowledgements

Aspects of this work were originally presented at the 2016 Mountain Plains chapter meeting of the Music Library Association in Greeley, CO and later at the Centre for Evidence Based Library and Information Practice Symposium in Saskatoon, SK in 2016.

My thanks to K. Lee who collaborated with me on the implementation of this project.

Thank you to my colleagues at the University of Saskatchewan: C. Sjoberg for her assistance with cleaning and enhancing the dataset and J. McLean who offered helpful feedback on OpenRefine and cleaning library catalogue data.

Sources

Bogdan (Lee), K. & C. Doi. (May, 2016). *Music in Space and Time: Using Data Visualization to Understand a Local Music Collection*. Paper presented at the Mountain Plains chapter meeting of the Music Library Association in Greeley, CO.

Buchel, O., & Sedig, K. (2014). Making sense of document collections with map-based visualisations: the role of interaction with representations. *Information Research*, 19(3), 29-55.

Doi, C. (2017). Connecting music and place: exploring library collection data using geo-visualizations. *EBLIP Journal*, 12(2).
<https://journals.library.ualberta.ca/eblip/index.php/EBLIP/article/view/28862>

Doi, C. and K. Lee. (October, 2016). *Visualizing Methods for Special Collections: Using Library Data to Tell a Geospatial Story*. Paper presented at the C-EBLIP Symposium at the University of Saskatchewan in Saskatoon, SK, Canada.

Doi, C. and K. Lee. (2017). "Choirs, Bands, and Orchestras of Saskatchewan v1." Retrieved from:
<https://spatialsk.maps.arcgis.com/apps/webappviewer/index.html?id=de483307f29641a2b7682c3f09d517b8>

Doi, C. and K. Lee. (2017a). "Saskatchewan Music Large Ensembles." Retrieved from: <http://dx.doi.org/10.7939/DVN/10974>

ESRI. (2016). World Population Estimates. Retrieved from:
<http://arcg.is/2jF68Ql>

Google Developers. (2017). Geocoding API: Getting Started. Retrieved from:
<https://developers.google.com/maps/documentation/geocoding/start?csw=1>

Morgan, M. (n.d.). What about choral art music from the Prairies?: An introduction to Canadian Prairie composers and their compositions for SATB choir. Retrieved from
<https://drive.google.com/file/d/0B1nJvB97aPfgLWtHemw1eII3M3M/view?usp=sharing>

Saskatchewan Board of Statistics, Census Canada. (2012). "Saskatchewan Population Report: 2011 Census of Canada." Retrieved from:
<http://www.stats.gov.sk.ca/stats/population/censusp2011.pdf>

Silva, Carlos Nunes. (2010). "Geo Visualization." In *Handbook of Research on E-Planning: ICTs for Urban Development and Monitoring*. Information Science Reference. doi:10.4018/978-1-61520-929-3

Wasiak, E. B. (2000). School bands in Saskatchewan, Canada: A history. *Journal of Historical Research in Music Education*, 21(2), 112-131. Retrieved from
<http://www.jstor.org/stable/40215213>

Yale University Library. "5. 300 \$a (Sound Recordings, RDA)." Retrieved from:
<http://web.library.yale.edu/cataloging/sound-recordings/non-music-checklist/300>